



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-113B BYPASS RATIO: 7.2
 UNIQUE ID NUMBER: 21GE183 PRESSURE RATIO (π_{00}): 41.8
 COMBUSTOR: DAC
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 504.9

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	5.1	43.2	70.2	3.8
AS % OF ORIGINAL LIMIT	26.2	36.6	56.8	24.7
AS % OF CAEP/2 LIMIT (NO _x)			71.0	
AS % OF CAEP/4 LIMIT (NO _x)			77.5	
AS % OF CAEP/6 LIMIT (NO _x)			85.0	
AS % OF CAEP/8 LIMIT (NO _x)			95.2	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	4.430	0.03	0.13	48.35	3.2
CLIMB OUT	85	2.2	3.484	0.02	0.14	35.53	2.2
APPROACH	30	4.0	1.054	0.05	2.30	15.90	1.6
IDLE	7	26.0	0.338	3.73	35.04	5.48	1.4
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1426	1994	19142	32245	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				6	6	6	6
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				4.0	37.9	63.9	3.2
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.3	1.3	1.1	1.4
RANGE (D _p /F ₀₀ in g/kN, or SN)				3.62-4.25	36.18-39.43	62.03-65.3	0.7-4.22

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT All POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT All POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.1-98.3
TEMPERATURE (K)	290.7-298.7
ABS HUMIDITY (kg/kg)	0.0051-0.0094

FUEL

SPEC	Jet A
H/C	1.9-1.96
AROM (%)	11.9-16.4

MANUFACTURER: General Electric Company
 TEST ORGANIZATION: General Electric Company
 TEST LOCATION: PTO, Ohio
 TEST DATES: 23/11/2003-26/05/2016

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

- Engine S/N 906-107/01 and ESN 901-007/01, GE Report R2019EA459
- Engine S/N 906-107/01 smoke numbers corrected for fuel aromatics volume, GE Report R2003AE462
- Smoke Number for each LTO mode is average of max SN for test points around that power setting
- Average SN (MAX) is the average of the maximum smoke number point from each run.
- Certification in accordance with Part III, Chapter 2, of Amendment 9 of ICAO Annex 16 Vol. II.

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)